

## WHAT IS CLAIMED IS:

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1. An image sensing apparatus comprising:
  - an image quality mode setting block for setting one of a plurality of image quality modes;
  - a solid state image sensing element for converting an optical image into an electric analog signal; and
  - an AD conversion block for converting the analog signal output from the solid state image sensing element, into a digital signal with a quantization bit count corresponding to an image quality mode set by the image quality mode selection block.
2. The image sensing apparatus as claimed in Claim 1, wherein the AD conversion block is an AD converter for selecting one of a plurality of quantization bit count corresponding to the image quality mode.
3. The image sensing apparatus as claimed in Claim 1, wherein the AD conversion block is realized by a plurality of AD converters having different quantization bit counts, and the apparatus further comprises an AD converter selection block for selecting one of the AD converters corresponding to the image quality mode set by the image quality mode setting block.

4. The image sensing apparatus as claimed in Claim 1, wherein a higher image quality mode corresponds to a greater bit count and a lower image quality mode corresponds to a smaller bit count.

5 5. The image sensing apparatus as claimed in Claim 1, the apparatus further comprising a digital signal processing block for performing an image processing to the digital signal output from the AD conversion block, with a quantization bit count corresponding to an image quality mode set by the image mode setting block.

6. The image sensing apparatus as claimed in Claim 5, wherein the digital signal processing block sets a corresponding quantization bit count when an image quality mode is set by the image quality mode setting block.

7. The image sensing apparatus as claimed in Claim 5, the apparatus further comprising a data thinning block for thinning the output signal from the digital signal processing block.

8. The image sensing apparatus as claimed in Claim 7, wherein the digital signal processing block performs at least a color interpolation processing.

9. The image sensing apparatus as claimed in Claim 5, the apparatus further comprising:

5        an image display block for displaying the image according to the output signal from the digital signal processing block, the image display block having a function to select whether to display the image while the image data is being stored in the image storage block.

an image storage block for storing the output signal from the digital signal processing block as an image data; and

5 an image display block for displaying the image according to the output signal from the digital signal processing block, wherein the solid state image sensing element, the AD conversion block, and the digital signal processing block stop their operations while the image display block is displaying an image

10 according to the image data stored in the image storage block.

11. The image sensing apparatus as claimed in Claim 1,  
wherein the image sensing apparatus is realized as an electronic  
still camera.